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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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COUNTRY Hungary

SUBJECT 24-Channel Telegraphic Communication System

REPORT

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report consisting of a description of the 24-channel alternating-current telegraphic communication set manufactured by the Beloiannisz Hiradastechnikai Gyar (Beloiannisz Communications Equipment Works) in Budapest. This equipment makes it possible to transmit 24 alternating-current telegraphic signals simultaneously on an ordinary telephone line. The report includes two sketches, one showing the transmitting end of a channel and the other the reduction of the signal coming from the line, which is done by the reverse of the process shown in the first sketch. The Beloiannisz plant was to export a consignment of the 24-channel alternating-current telegraphic sets to Poland at the end of December 1957.

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HUNGARY

Scientific

The 24-Channel Telegraphic Communication System.

The following is a short description of the 24-channel alternating-current telegraphic communication set manufactured by the BELOIANNISZ Communications Equipment Works at BUDAPEST. Híradástechnikai Gyár

1. This equipment makes it possible to transmit 24 alternating-current telegraphic signals simultaneously on an ordinary telephone line..

2. As the entire frequency range of the 24 channels lies within the frequency range of a normal telephone network, this makes it possible to transmit the entire frequency band of the 24-channel alternating-current telegraphic system through a single channel of a multi-channel telephone network (when use is made, for instance, of a multi-channel telephone system).

3. This set was originally designed for a 12-channel telephone exchange manufactured by the BELOIANNISZ Communications Equipment Works, but it can be used for other, similar multi-channel telephone exchanges.

4. The attached diagrammatic sketch No. 1 (Appendix A) shows the transmitting end of a channel. No.2 (Appendix B) shows the reduction of the signal coming from the line, which is done by the inverse of the process described on sketch No.1.

5. The dotted frame on both sketches shows the parts which can be found in the equipment for every single channel. In other words the framed part is the channel itself.

6. The voltages at the modulation and at the output stages are identical with the voltages used by carrier frequency transmissions.

7. The BELOIANNISZ Communications Equipment Works was to export the first consignment of the 24-channel alternating-current telegraphic sets described above at the end of December 1957 (to POLAND).

APPENDIX "A"

DIAGRAMMATIC SKETCH NO.1

a **CHANNEL ADJUSTER**: Adjusts the actual telegraphic equipment to the single channel.

b **AMPLIFIER**: Low frequency amplifier with a transformer output.

c **MODULATOR**: Ring modulator (buried) generally used in the telephone industry. The diodes used were imported from abroad.

d **OSCILLATOR**: An oscillator of Hartley circuit. There is no possibility to compensate the frequency flutter. The oscillator (type) ~~secures the~~ frequency stability. The frequencies of the oscillators of the single channels are at a distance of 120-140 Hz from each other. This frequency distance determines the distance between the channels. The frequency of the ~~base~~ channel oscillator is 280 Hz.

e **BAND FILTER and AMPLIFIER**: Suppresses the upper side-band created by modulation and the carrier frequency. The amplifier is a voltage amplifier of normal circuit.

f **AMPLIFIER, MIXER**: For ~~joining~~ combining the single telegraphic channels. The amplifier eliminates the eventual differences in level.

g **ATTENUATION DEVICE**: Built of resistances, which can be switched by periodic settings; impedance 600Ω; symmetrical, used for adjusting and level setting.

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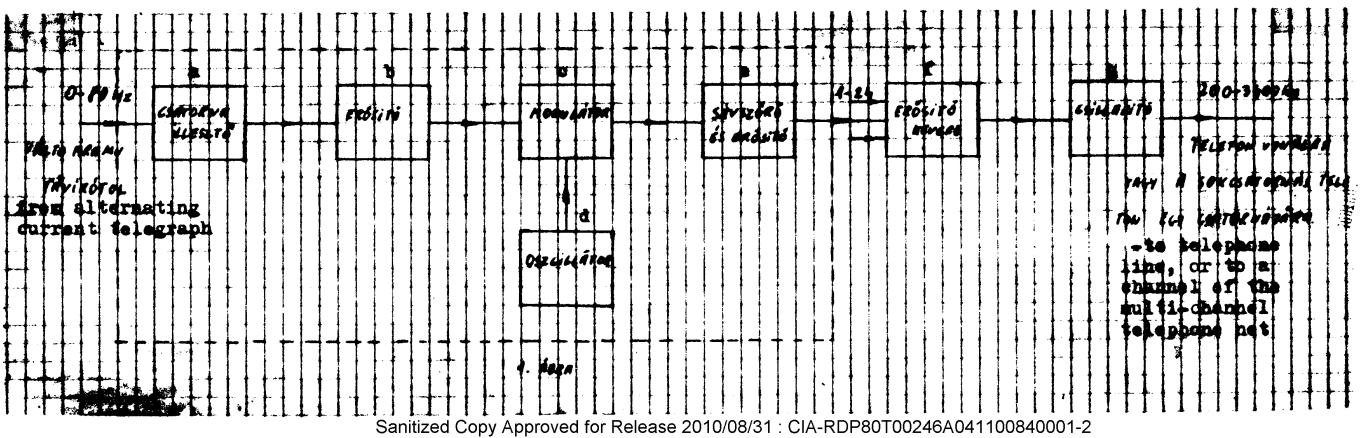

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APPENDIX "B"

DIAGRAMMATIC SKETCH NO. 2

a ATTENUATION DEVICE
b BAND FILTER
c AMPLIFIER
d DEMODULATOR
e OSCILLATOR
f BOTTOM FILTER
g AMPLIFIER, ATTENUATION DEVICE
h CHANNEL ADJUSTER

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